Claims:

1. An acoustically active element formed in a multi-layer circuit-board structure (20, 22, 24, 25), which includes

- an internal chamber (21), and
- a membrane (18) or beam arranged acoustically in connection with the internal chamber (21), which acts as a vibrating element and is connected electrically to external circuits, in order to produce or measure an acoustic effect,

characterized in that

- the internal chamber (21) is formed inside the multi-layer circuit-board construction (20, 22, 24, 25), in connection with the process of manufacturing the circuit board.

2. An acoustically active element according to Claim 1, **characterized** in that the membrane (18) acting as a vibrating element is stretched on top of an annular element (16) formed in the multi-layer circuit-board structure (20, 22, 24, 25).

3. An acoustically active element according to Claim 1 or 2, **characterized** in that the membrane (18) acting as a vibrating element is electrically charged.

4. An acoustically active element according to any of the above Claims, **characterized** in that the annular element (18) is formed from copper on the surface of the multi-layer circuit-board structure.

5. A method for forming an acoustically active element in a multi-layer circuit-board structure, in which method the multi-layer circuit-board structure is formed of alternating insulating (25, 24) and conducting layers (22), contacts being formed between the conducting layers (22), and conducting structures being imaged in the conducting layers,

characterized in that

- an acoustic internal chamber (21) is formed inside the multi-layer circuit-board structure (20, 22, 24, 25),
- the internal chamber is opened (17) if necessary to the surface of the circuit board, and
- a membrane (18) capable of vibrating is formed on top of the internal chamber (21) opened to the surface.

6. A method according to Claim 6, **characterized** in that the internal chamber (21) is opened using the microvia technique.

7. A method according to Claim 5 or 6, **characterized** in that an annular structure (16), on top of which the membrane (18) capable of vibrating is installed, is formed on the surface of the circuit board.

8. A method according to any of the above Claims, **characterized** in that the membrane (18) capable of vibrating is electrically charged.

9. A multi-layer circuit-board structure, which includes

- alternating insulating (25, 24) and conducting layers (22),
- contacts formed between the conducting layers (22), and
- conducting structures forming patterns in the conducting layers,

characterized in that the multi-layer circuit-board structure includes

- a built-in acoustic internal chamber (21), and
- a membrane (18) capable of vibrating formed on top of the internal chamber (21).

10. A multi-layer circuit-board structure according to Claim 9, **characterized** in that the membrane (18) acting as a vibrating element is stretched on top of an annular element (16) formed in the multi-layer circuit-board structure (20, 22, 24, 25).

11. A multi-layer circuit-board structure according to Claim 9 or 10, **characterized** in that the membrane (18) capable of vibrating is electrically charged.

12. A multi-layer circuit-board according to any of the above Claims, **characterized** in that an annular element (18) is formed from copper on the surface of the multi-layer circuit-board structure.